

## **WEB PAGE DESIGN II**

### **COURSE DESCRIPTION**

This course, which is the second level of Web Page Design, prepares students with work-related skills for advancement into post secondary education or industry. Course content includes exposure to basic and advanced Web design, pixilated and vector-based Web graphics, Web animations, and the dynamics of Web hosting and Web design in e-commerce. The course content provides students the opportunity to acquire fundamental skills in both theory and practical application of Web design and of leadership and interpersonal skill development. Laboratory facilities and experiences simulate those found in the Web page design and construction industry.

**Prerequisite:** Web Page Design I; Algebra I or Math for Technology II

**Recommended Credits:** 1

**Recommended Grade Levels:** 11<sup>th</sup>, 12<sup>th</sup>

<b>WEB PAGE DESIGN II STANDARDS</b>
---

- 1.0 Students will demonstrate leadership, citizenship, and teamwork skills required for success in the school, community, and workplace.
- 2.0 Students will demonstrate techniques used for photo re-touching.
- 3.0 Students will apply the appropriate process and technique to create animations.
- 4.0 Students will evaluate and demonstrate proficiency with various “industry standard” building software
- 5.0 Students will demonstrate techniques used to incorporate multimedia within markup language documents, such as HTML.
- 6.0 Students will apply markup language, such as Java Script, applets, objects, event handlers, functions, variables, and conditionals, to markup language documents such as HTML.
- 7.0 Students will evaluate the process of commercial Web site publishing.
- 8.0 Students will access and compare various domain hosting services.
- 9.0 Students will analyze current market rates for commercial Web site design hosting and maintenance.
- 10.0 Students will analyze Internet etiquette on the World Wide Web.

## **WEB PAGE DESIGN II**

### **STANDARD 1.0**

Students will demonstrate leadership, citizenship, and teamwork skills required for success in the school, community, and workplace.

### **LEARNING EXPECTATIONS**

The student will:

- 1.1 Demonstrate dignity in work.
- 1.2 Participate in SkillsUSA-VICA as an integral part of classroom instruction.
- 1.3 Evaluate school, community, and workplace situations by applying problem-solving and decision-making skills.
- 1.4 Demonstrate the ability to work professionally with others.

### **PERFORMANCE STANDARDS: EVIDENCE STANDARD IS MET**

The student:

- 1.1 Demonstrates leadership skills through exhibiting characteristics of integrity and pride in work.
- 1.2 Demonstrates employability skills.
- 1.3 Analyzes situations in the workplace and uses problem-solving techniques to create a desirable environment.
- 1.4.A Participates in job shadowing in an area of the information technology industry.
- 1.4.B Manages an officer or national voting delegate campaign with Tennessee SkillsUSA-VICA.

### **SAMPLE PERFORMANCE TASKS**

- Prepare a resume.
- Participate in various SkillsUSA-VICA programs and/or competitive events.
- Attend a professional organization meeting such as, Chamber of Commerce meeting.
- Participate in the American Spirit Award competition with SkillsUSA-VICA.
- Develop a plan of action for an officer candidate or national voting delegate.
- Participate in job shadowing or internship within the Web Page Design industry.

### **INTEGRATION LINKAGES**

SkillsUSA-VICA, Professional Development Program, SkillsUSA-VICA, Communications and Writing Skills, Teambuilding Skills, Research, Language Arts, Sociology, Psychology, Math, Math for Technology, Applied Communications, Social Studies, Problem Solving, Interpersonal Skills, Employability Skills, Critical-Thinking Skills, Secretary's Commission on Achieving Necessary Skills (SCANS), Chamber of Commerce, Colleges, Universities, Technology Centers, and Employment Agencies

## **WEB PAGE DESIGN II**

### **STANDARD 2.0**

Students will demonstrate techniques used for photo re-touching.

### **LEARNING EXPECTATIONS**

The student will:

- 2.1 Demonstrate procedure to sharpen image quality.
- 2.2 Evaluate techniques to replace photo background.
- 2.3 Analyze blurring techniques to hide photo imperfections.
- 2.4 Demonstrate cropping procedures of photo dead space.

### **PERFORMANCE STANDARD: EVIDENCE STANDARD IS MET**

The student:

- 2.1 Performs the procedures used to sharpen photo quality and enhance colors using Web safe color schemes.
- 2.2 Illustrates the techniques used to swap out photo backgrounds.
- 2.3 Demonstrates blurring techniques to mask photo imperfections.
- 2.4 Identifies photo dead space and crop photo.

### **SAMPLE PERFORMANCE TASKS**

- Given a photo image, use techniques available to sharpen image quality, enhance colors using Web safe schemes.
- Change out a photo's background and blur imperfections in the background.
- Crop photo to eliminate dead space.
- Present work to the class.

### **INTEGRATION LINKAGES**

World Wide Web Consortium (W3C), SkillsUSA-VICA, HTML Writers Guild (HWG), Art & Design, Art, Internet Navigation Skills, Photography, Math, Language Arts, Secretary's Commission on Achieving Necessary Skills (SCANS), Information Technology, Computer Application Skills, Computer Architecture

## **WEB PAGE DESIGN II**

### **STANDARD 3.0**

Students will apply the appropriate process and technique to create animations.

### **LEARNING EXPECTATIONS**

The student will:

- 3.1 Evaluate basic animation creation.
- 3.2 Analyze the application of appropriate background color for use in animation creation.
- 3.3 Analyze techniques to construct complicated animations.

### **PERFORMANCE STANDARD: EVIDENCE STANDARD IS MET**

The student:

- 3.1 Constructs complex animations.
- 3.2 Selects and applies the appropriate color or transparency for use with animation on the Web page.
- 3.3 Applies principals to construct complicated animations for use in a Web page.

### **SAMPLE PERFORMANCE TASKS**

- Given the dimensions, and timing data, have students use text to construct a basic animation sequence.
- Illustrate variations using background color and transparency.
- Demonstrate procedures to construct a complicated animation sequence using at least 100 frames, transitioning color, effect, position, and opacity.

### **INTEGRATION LINKAGES**

World Wide Web Consortium (W3C), SkillsUSA-VICA, HTML Writers Guild (HWG), Art & Design, Art, Internet Navigation Skills, Photography, Math, Language Arts, Secretary's Commission on Achieving Necessary Skills (SCANS), Information Technology, Computer Application Skills, Computer Architecture

## **WEB PAGE DESIGN II**

### **STANDARD 4.0**

Students will evaluate and demonstrate proficiency with various “industry standard” building software.

### **LEARNING EXPECTATIONS**

The student will:

- 4.1 Evaluate commercial off-the-shelf (COTS) products.
- 4.2 Evaluate open systems emphasis.
- 4.3 Define and clarify the use of commercial off-the-shelf (COTS) and creation of open systems and other non-developmental items (NDI) through the use of interface standards.
- 4.4 Evaluate features and utilities available with commercial off-the-shelf (COTS) Web building software.

### **PERFORMANCE STANDARD: EVIDENCE STANDARD IS MET**

The student:

- 4.1.A Examines the benefits each commercial off-the-shelf (COTS) and open systems bring to the development, maintenance, and evolution of systems.
- 4.1.B Analyzes basic features available in commercial off-the-shelf (COTS) Web building product.
- 4.1.C Evaluates the limitations of commercial off-the-shelf (COTS) and their proprietary tendencies.
- 4.2.A Explains open system emphasis.
- 4.2.B Analyzes the use of interface standards and the use of implementations that conform to those standards interfaces related to open systems.
- 4.3.A Differentiates between limitations of each product, commercial off-the-shelf (COTS), open systems, and non-development items (NDI).
- 4.3.B Supports the vision of “plug and play” relating to flexibility and adaptability of products and interface standards.
- 4.4.A Demonstrates familiarity with the features of COTS Web publishing packages.
- 4.4.B Uses COTS Web publishing software to construct complicated page features.
- 4.4.C Differentiates between COTS limitations and abilities.
- 4.4.D Demonstrates an understanding of the need for the development of markup language building skills with COTS.

### **SAMPLE PERFORMANCE TASKS**

- Evaluate the limitations and features between each product. Develop a presentation which makes a recommendation of a product you would prefer to use and the reasons you made the selection.

- Develop a plan for using COTS products and an open system approach together.
- Construct several Web pages with each COTS product.
- Using markup language scripting abilities, modify the constructed pages in those areas that the COTS would not perform.
- Compare the features available in the different COTS provided.
- Chart the limitations of COTS and their proprietary tendencies.
- Chart the abilities and limitations of each assessed product.
- Develop a presentation for the class showing your finished chart.

### **INTEGRATION LINKAGES**

World Wide Web Consortium (W3C), SkillsUSA-VICA, HTML Writers Guild (HWG), United Department of Defense, Art & Design, Art, Internet Navigation Skills, Photography, Math, Language Arts, Secretary's Commission on Achieving Necessary Skills (SCANS), Information Technology, Computer Application Skills, Computer Architecture

## **WEB PAGE DESIGN II**

### **STANDARD 5.0**

Students will demonstrate techniques used to incorporate multimedia within markup language documents such as HTML.

### **LEARNING EXPECTATIONS**

The student will:

- 5.1 Evaluate the procedures for embedding sound files such as MIDI and MP3 into Web documents.
- 5.2 Evaluate the procedures for using ActiveX and video streaming techniques in Web documents.
- 5.3 Apply the process of construction and modification of sound files.
- 5.4 Design and use basic scripting functions using markup languages such as Java Script.
- 5.5 Understand the fundamentals of applications that use graphics or graphical user interfaces.
- 5.6 Differentiate between compiled and interpreted programming languages.
- 5.7 Analyze object-oriented principles and object modeling.
- 5.8 Evaluate object creation and destruction, associations and links, aggregation, inheritance, and other object design fundamentals.

### **PERFORMANCE STANDARD: EVIDENCE STANDARD IS MET**

The student:

- 5.1 Applies techniques to incorporate audio files into Web documents.
- 5.2 Performs the necessary process to embed video files into Web documents.
- 5.3.A Constructs new audio files from a variety of input sources.
- 5.3.B Modifies existing audio files for use with Web documents.
- 5.4 Designs and uses basic scripting functions using markup languages, such as Java Script.
- 5.5.A Constructs a basic markup language such as Java for implementation.
- 5.5.B Plans for and creates a markup language such as Java functions to enhance Web pages.
- 5.6.A Charts advantages and disadvantages of compiled and interpreted programming language.
- 5.6.B Compares and evaluates the abilities of markup language such as Java and Java Script.
- 5.7.A Develops reusable code and applications.
- 5.7.B Applies object-oriented concepts.
- 5.7.C Solves facing design and modeling issues.
- 5.8.A Discusses the enhancements and benefits of applications, incorporating a markup language such as Java Script.



- 5.8.B Applies the fundamentals of applications incorporating a markup language such as Java Script.
- 5.8.C Plans and creates a function using a markup language such as Java to enhance Web pages.

### **SAMPLE PERFORMANCE TASKS**

- Construct new audio files and modify existing audio media files for use in existing documents. Use available methods to incorporate the use of audio and video media.
- Assess existing Web page functions that can be enhanced with Java Script. Construct Java Script applications for use to enhance the identified page functions. Evaluate the end result for both functionality and data load time.
- Review and discuss the abilities, advantages and drawbacks of using Java Script.

### **INTEGRATION LINKAGES**

World Wide Web Consortium (W3C), SkillsUSA-VICA, HTML Writers Guild (HWG), United Department of Defense, Art & Design, Art, Internet Navigation Skills, Photography, Math, Language Arts, Secretary's Commission on Achieving Necessary Skills (SCANS), Information Technology, Computer Application Skills, Computer Architecture

## **WEB PAGE DESIGN II**

### **STANDARD 6.0**

Students will apply markup language such as Java Script, applets, objects, event handlers, functions, variables, and conditionals to markup language documents such as HTML.

### **LEARNING EXPECTATIONS**

The student will:

- 6.1 Evaluate the purpose and functionality of programming language, such as applets, objects, event handlers, functions, variables and conditionals.
- 6.2 Analyze COTS Web software's ability to construct the above advanced enhancements.
- 6.3 Analyze the process to construct advance enhancements using COTS software.

### **PERFORMANCE STANDARD: EVIDENCE STANDARD IS MET**

The student:

- 6.1 Plans for the use of Java Script, applets, objects, event handlers, functions, variables, and conditionals.
- 6.2 Demonstrates the procedure for advance enhancement construction and implementation using COTS Web development software.
- 6.3 Enhances basic markup language documents using a language such as Java Script, applets, objects, event handlers, functions, variables and conditionals constructed with COTS software.

### **SAMPLE PERFORMANCE TASKS**

- Provide the student basic HTML documents. Have them replace basic HTML functionality with Java Script, applets, objects, event handlers, functions, variables and conditionals using COTS software.

### **INTEGRATION LINKAGES**

World Wide Web Consortium (W3C), SkillsUSA-VICA, HTML Writers Guild (HWG), United Department of Defense, Art & Design, Art, Internet Navigation Skills, Photography, Math, Language Arts, Secretary's Commission on Achieving Necessary Skills (SCANS), Information Technology, Computer Application Skills, Computer Architecture

## **WEB PAGE DESIGN II**

### **STANDARD 7.0**

Students will explain the process of commercial Web site publishing.

### **LEARNING EXPECTATIONS**

The student will:

- 7.1 Evaluate commercial domain hosting services.
- 7.2 Distinguish between and evaluate different search engines.
- 7.3 Evaluate the concepts of domain name hosting, transfer, parking, registration, and sub hosting.
- 7.4 Employ the use of Meta-tags to enhance and optimize commercial Web site publishing.

### **PERFORMANCE STANDARD: EVIDENCE STANDARD IS MET**

The student:

- 7.1 Analyzes commercial domain name hosting services, current market rates, and report findings.
- 7.2.A Evaluates the methods different search engines use to locate resources.
- 7.2.B Evaluates the “Open Directory” database.
- 7.2.C Compares leading Internet search engines.
- 7.3.A Differentiates between, hosting, sub hosting and domain transfer, parking, and registration.
- 7.3.B Makes cost comparisons.
- 7.4.A Distinguishes between user-input engines, and those that make use of Meta-tag names.
- 7.4.B Analyzes the elements of Meta-tag identification files.
- 7.4.C Examines and evaluates Meta-tag resource lines for existing Web pages.

### **SAMPLE PERFORMANCE TASKS**

- Perform a cost and service analysis of commercial hosting services.
- Compare market rates for hosting, sub hosting and domain transfer, parking, and registration among different services.
- Differentiate between different services offered and their costs.
- Using key words, utilize search engines and document and compare the results. Compare their results with the Meta-tag names of the listed Web sites. Evaluate the reasons for their search engine ranking.
- Browse the “Open Directory” and analyze its use.
- Construct appropriate Meta-tag identification lines for an existing Web site. Locate the input requirements for listing the Meta-tag names with the selected search engines.

### **INTEGRATION LINKAGES**

World Wide Web Consortium (W3C), SkillsUSA-VICA, HTML Writers Guild (HWG),  
United Department of Defense, Art & Design, Art, Internet Navigation Skills,  
Photography, Math, Language Arts, Secretary's Commission on Achieving  
Necessary Skills (SCANS), Information Technology Computer Application Skills,  
Computer Architecture

## **WEB PAGE DESIGN II**

### **STANDARD 8.0**

Students will access and compare various domain hosting services.

#### **Learning Expectations**

The student will:

- 8.1 Analyze various services offered by Internet hosting services.
- 8.2 Distinguish between services offered and costs by commercial domain hosting services.

### **PERFORMANCE STANDARD: EVIDENCE STANDARD IS MET**

The student:

- 8.1.A Researches Internet hosting services and contracts.
- 8.1.B Compares various Internet domain-hosting services.
- 8.2 Differentiates between domain hosting, parking, registration, forwarding, and domain transferring.

### **SAMPLE PERFORMANCE TASKS**

- Access, compare and contrast five commercial Internet Domain Hosting services. Perform a cost analysis between services offered, what the host provides with that service, and the current market prices for services available. Chart findings from the research. Choose the best commercial service available based on cost for-service. Develop a presentation to show findings and share with a group.

### **INTEGRATION LINKAGES**

World Wide Web Consortium (W3C), SkillsUSA-VICA, HTML Writers Guild (HWG), United Department of Defense, Art & Design, Art, Internet Navigation Skills, Photography, Math, Language Arts, Secretary's Commission on Achieving Necessary Skills (SCANS), Information Technology, Computer Application Skills, Computer Architecture

## **WEB PAGE DESIGN II**

### **STANDARD 9.0**

Students will analyze and compare current market rates for commercial Web site design hosting and maintenance.

### **Learning Expectations**

The student will:

- 9.1 Analyze various services offered by Internet Web site design services.
- 9.2 Distinguish between services offered and costs by commercial Web site design services.
- 9.3 Analyze the cost of host Internet connection, and equipment required for hosting and maintenance.

### **PERFORMANCE STANDARD: EVIDENCE STANDARD IS MET**

The student:

- 9.1 Accesses and compares various Internet Web site design services.
- 9.2 Differentiates between Web site design and Web site maintenance services.
- 9.3.A Evaluates hardware, operating system/platform, and other software needed to set up and maintain an Internet connection and Internet Web server.
- 9.3.B Conducts research into the cost of hardware, operating system/platform, and other software needed to set up and maintain an Internet T-1 connection and Web Server.

### **SAMPLE PERFORMANCE TASKS**

- Access and compare five commercial Internet Web site design services. Perform a cost analysis between services offered, and the current market prices for service. Choose the best commercial service available based on cost-for-service.
- Assess and compare five commercial Internet hosting services. Research the type of hardware, operating systems/platforms used and their connection type. Perform a cost analysis between site equipment configurations.

### **INTEGRATION LINKAGES**

World Wide Web Consortium (W3C), SkillsUSA-VICA, HTML Writers Guild (HWG), United Department of Defense, Art & Design, Art, Internet Navigation Skills, Photography, Math, Language Arts, Secretary's Commission on Achieving Necessary Skills (SCANS), Information Technology, Computer Application Skills, Computer Architecture

## **WEB PAGE DESIGN II**

### **STANDARD 10.0**

Students will analyze Internet etiquette on the WorldWideWeb.

#### **Learning Expectations**

The student will:

- 10.1 Analyze Internet etiquette with regard to spamming, copyright, copyright infringement, and responsibilities for materials published for public viewing.
- 10.2 Evaluate various Internet guards and programs intended to monitor and/or censor Internet viewing by minors.

### **PERFORMANCE STANDARD: EVIDENCE STANDARD IS MET**

The student:

- 10.1 Conducts research on spamming, copyright, copyright infringement, and responsibilities for materials published for public viewing.
- 10.2 Assesses the abilities of commercial Web browser censorship settings and various programs and rating associations available on the Web.

### **SAMPLE PERFORMANCE TASKS**

- Prepare a research document with regard to current laws and etiquette concerning spamming, copyright, copyright infringement, and responsibilities for materials published for public viewing. Provide possible solutions for minors controlled access to non-rated, and adult rated Internet sites. Prepare and present research findings to the class, school, and community.

### **INTEGRATION LINKAGES**

World Wide Web Consortium (W3C), SkillsUSA-VICA, HTML Writers Guild (HWG), United Department of Defense, Art & Design, Art, Internet Navigation Skills, Photography, Math, Language Arts, Secretary's Commission on Achieving Necessary Skills (SCANS), Information Technology, Computer Application Skills, Computer Architecture

**Suggested Resources:**

WorldWideWeb Consortium - <http://www.w3c.org>  
HTML For The WorldWideWeb 4 – Elizabeth Castro  
HTML Writers Guild <http://www.hwg.org>  
Netscape Navigator/Communicator  
Microsoft Internet Explorer 4x/5x  
Adobe PhotoShop  
SkillsUSA-VICA – [skillsusa.org](http://skillsusa.org)  
Photography/Digital Imaging  
3-D Animation and Visualization